

Serial No. 10/635,198

Art Unit: 2125

IN THE DRAWING

Please replace drawing sheet 5 with the version provided herewith.

REMARKS

Claims 1 – 3, 6 – 11, 13, 15 and 16 are pending in the present application. Claims 4, 5, 12, 14 and 17 are canceled. Reconsideration of the application is respectfully requested.

In late March 2007 and early April 2007, Applicant and Examiner Ortiz held a couple of informal teleconferences during which they agreed to some proposed amendments to the claims. The present amendment incorporates the proposed amendments. Applicant thanks Examiner Ortiz for making time for the informal teleconferences.

In item 3 of the Office Action, claims 1 – 11 are rejected under 35 U.S.C. 112, second paragraph, because the term “substantially” renders the claims indefinite. Applicants are amending claim 1, 6 and 9 to delete the term “substantially.” Applicants are also amending claims 13 and 15 to delete the term “substantially.” A withdrawal of the rejection is respectfully solicited.

In item 4 of the Office Action, claims 1 – 11 are rejected under 35 U.S.C. 112, second paragraph because in claim 1, the terms “each section” and “the slope” lack an antecedent basis. Applicant is amending claim 1 to address this rejection. Claims 13 and 15 include recitals similar to those of claim 1, and so, Applicant is also making a similar amendment to each of claims 13 and 15. A withdrawal of the rejection is respectfully requested.

In item 5 of the Office Action, claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph because in claim 6, the term “the real slope” lacks an antecedent basis. Applicant is amending claim 6 to address this rejection. A withdrawal of the rejection is respectfully requested.

In item 6 of the Office Action, claims 14 and 17 are rejected. Claims 14 and 17 are canceled, thus rendering moot the rejection thereof. A withdrawal of the rejection is requested.

In item 8 of the Office Action, claims 13 – 17 are rejected under 35 U.S.C. 101, as being directed toward non-statutory subject matter. Applicant is addressing this rejection in the following several paragraphs.

Applicant is amending claim 13, and more particularly, the preamble of claim 13, as agreed during the aforementioned teleconference. Applicants submit that claim 13 is now properly directed toward patentable subject matter.

Claim 14 is canceled. As such, the rejection thereof is rendered moot.

Claim 15 provides for a system that includes, *inter alia*, a receiver and a modeling unit. The modeling unit is for creating a model of an electronic device. Applicant respectfully submits that the model of the electronic device is a useful, concrete and tangible result, and therefore further submits that claim 15 fulfills with the requirement of 35 U.S.C. 101. However, from the aforementioned teleconference, Applicant understands that the rejection of claim 15 is based on the Examiner's difficulty in locating descriptive support for the receiver and modeling unit of claim 15. Page 6, second paragraph describes the time domain reflection oscilloscope, which can be considered as a receiver as specified in claim 15. Pages 6 and 7 explain that a model is generated on the basis of the signals derived from the oscilloscope. For clarification, Applicant is amending FIG. 7 to provide a box around the TDR source and the output thereof, and adding an additional box labeled modeling unit connected to the TDR source. Support for these features can be found in the original description of FIG. 7 and from original claim 14.

Claim 16 depends from claim 15. By virtue of this dependence, claim 16 also fulfills the requirement of 35 U.S.C. 101.

Claim 17 is canceled. As such, the rejection thereof is rendered moot.

Applicant is requesting reconsideration and withdrawal of the section 101 rejection of claims 13 – 17.

Item 10 of the Office Action is rejecting claims 1 – 3, 6 – 9, 11 and 13 – 17 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,393,363 to Forster Jr. (hereinafter “the Forster Jr. patent”) in view of U.S. Patent No. 5,349,539 to Moriyasu (hereinafter “the Moriyasu patent”). Applicant is traversing this rejection.

Claim 1 provides for method that includes, *inter alia*, sampling a received measured electrical signal response at a plurality of sampling points. The method also includes:

- (c) for each section of the received measured electrical signal response between two adjacent sampling points:
 - (i) selecting a pulse unit for generating a pulse having a transition between the two adjacent sampling points associated with the section; and
 - (ii) selecting a current source or a voltage source providing, in response to the pulse from the selected pulse unit, an output signal corresponding to a slope of the section;
- (d) selecting an integrating unit for superimposing the output signals from each of the selected current or voltage sources for generating an approximated signal response; and
- (e) creating a model of the electronic device based on the selected pulse units, the selected current or voltage sources and the selected integrating unit.

FIG. 6 of the present application is a model of a system that employs the method of claim 1. Applicant wishes for the Examiner to note that in claim 1, step (c), the received measured electrical signal response has a plurality of sections, and for each of these sections a pulse unit and a current source or voltage source is selected. That is, for each section of the received measured electrical signal response, an associated pulse unit and current/voltage source is selected, and therefore a plurality of pulse units and current sources or voltage sources are provided.

The Forster Jr. patent, FIG. 1, discloses a pulse width modulation apparatus. An input signal 11 is summed with a scan signal 12 at a summing node 13, and the sum signal is provided to an encoder 17. The functionality of the apparatus is described with regard to Fig. 2B. In this example, a triangular-

shaped scan signal is assumed, the level of which, with regard to a zero volt level, is shifted, dependent on the amplitude of input signal 11. FIG. 2A depicts a transfer function of encoder 17, and, dependent on the shift of scan signal 12 by the amplitude of input signal 11, the width of pulses output by encoder 17 differs in such a manner that information about the amplitude value of input signal 11 can be found in the width of the output signal from encoder 17. (See col. 1, line 66 – col. 2, line 7; and col. 5, line 3 – col. 6, line 10).

The pulse width modulation apparatus of the Forster Jr. patent, FIG. 1 also includes an amplifier 18 and an output section 19. Amplifier 18 is for amplifying the output signal from encoder 17. Thus, in accordance with the teachings of the Forster Jr. patent, an input signal is transformed into an output signal comprising a plurality of pulses, which may have different pulse widths dependent on the amplitude of the input signal. Each of the pulses output by encoder 17 is applied to power amplifier 18, the output of which is applied to output section 19. Power amplifier 18 and output section 19 operate on the signal from encoder 17 independent of the pulse width thereof.

Thus, the pulse width modulation apparatus of the Forster Jr. patent, FIG. 1 comprises a single power amplifier and a single output section, which operate on each of the pulses output by the encoder irrespective of the shape of the pulses. Consequently, the apparatus of FIG. 1 of the Forster Jr. patent cannot select for each pulse section, (a) a pulse unit, and (b) a current source or voltage source.

Nevertheless, the Office Action, on page 4, suggests that the Forster Jr. patent, at col. 5, lines 6 – 9, discloses selecting a pulse unit for generating a pulse. Applicant respectfully disagrees.

The passage at col. 5, lines 6 – 9 of the Forster Jr. patent is referring to FIG. 2b, and states:

A change in the level or amplitude of the input signal causes a corresponding change in the level of the output by changing the level produced by the pulses.

Applicant submits that the passage at col. 5, lines 6 – 9 merely refers to a relationship between the level of the output and the amplitude of the input signal. The passage at col. 5, lines 6 – 9 does not mention or

suggest that there are a plurality of pulse generators after an encoder, and therefore does not mention or suggest a selection of a pulse generator. Thus, the Forster Jr. patent does not disclose or suggest **selecting a pulse unit** for generating a pulse having a transition between the two adjacent sampling points associated with the section, as recited in claim 1, item (c)(i).

The Office Action, also on page 4, further suggests that the Forster Jr. Patent, in FIG. 8, and in a passage at col. 9, lines 31 – 44, discloses selecting a current source or a voltage source. Applicant respectfully disagrees.

The Forster Jr. patent, at col. 9, lines 34 – 35 states that FIG. 8 merely shows a “fundamental amplifying means.” The Forster Jr. patent does not mention or suggest a plurality of such an amplifying means, and therefore, does not mention or suggest selecting an amplifying means. Thus, the Forster Jr. patent does not disclose or suggest **selecting a current source or a voltage source** providing, in response to the pulse from the selected pulse unit, an output signal corresponding to a slope of the section, as recited in claim 1, item (c)(ii).

Since the Forster Jr. patent does not disclose or suggest selecting a pulse unit, and selecting a current source or a voltage source, as recited in claim 1, items (c)(i) and (c)(ii), the Forster Jr. patent also does not disclose or suggest (d) selecting an integrating unit for superimposing the output signals **from each of the selected current or voltage sources** for generating an approximated signal response, (e) creating a model of the electronic device **based on the selected pulse units, the selected current or voltage sources** and the selected integrating unit, as are also recited in claim 1.

Moreover, since the Forster Jr. patent does not disclose the provision of a plurality of current or voltage sources, the Forster Jr. does not disclose that the output of such sources can be superimposed. Consequently, the Forster Jr. patent does not disclose or suggest (d) selecting an integrating unit for **superimposing the output signals from each of the selected current or voltage sources** for generating an approximated signal response, as recited in claim 1.

Additionally, page 4 of the Office Action further suggests that the Forster Jr. patent, FIG. 30b, discloses creating a model. However, the Forster Jr. patent does not contain a FIG. 30b, and the Forster Jr. patent does not appear to mention a creation of a model of an electronic device, much less (e) **creating a model** of the electronic device based on the **selected pulse units**, the **selected current or voltage sources** and the **selected integrating unit**, as recited in claim 1.

The Moriyasu patent does not make up for the deficiencies of the Forster Jr. patent described above. Therefore, claim 1 is patentable over the cited combination of the Forster Jr. and Moriyasu patents.

Claims 2, 3, 6 – 9 and 11 depend from claim 1. By virtue of this dependence, claims 2, 3, 6 – 9 and 11 are also patentable over the cited combination of the Forster Jr. and Moriyasu patents.

Claim 13 is an independent claim, and includes recitals similar to those of claim 1 described above. Thus, for reasoning similar to that provided in support of claim 1, Applicant submits that claim 13 is patentable over the cited combination of the Forster Jr. and Moriyasu patents.

Claim 15 is an independent claim, and includes recitals similar to those of claim 1 described above. Thus, for reasoning similar to that provided in support of claim 1, Applicant submits that claim 15 is patentable over the cited combination of the Forster Jr. and Moriyasu patents.

Claim 16 depends from claim 15. By virtue of this dependence, claim 16 is also patentable over the cited combination of the Forster Jr. and Moriyasu patents.

Claim 17 is canceled. As such, the rejection thereof is rendered moot.

Applicant respectfully requests reconsideration and withdrawal of the section 103(a) rejection of claims 1 – 3, 6 – 9, 11 and 13 – 17.

In item 11 of the Office Action, claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Forster Jr. patent, in view of the Moriyasu patent, and further in view of U.S. Patent No.

5,162,723 to Marzalek et al. (hereinafter "the Marzalek et al. patent"). Applicant is addressing this rejection in the following two paragraphs.

Claim 10 depends from claim 1. Above, Applicant explained that claim 1 is patentable over the cited combination of the Forster Jr. and Moriyasu patents. Applicant submits that the Marzalek et al. patent does not make up for the deficiencies of the Forster Jr. and Moriyasu patents, as they relate to claim 1, and that therefore, claim 1 is patentable over the cited combination of the Forster Jr., Moriyasu and Marzalek et al. patents. Accordingly, Applicant further submits that claim 10, by virtue of its dependence on claim 1, is also patentable over the cited combination of the Forster Jr., Moriyasu and Marzalek et al. patents.

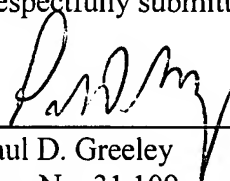
Applicant respectfully requests reconsideration and withdrawal of the section 103(a) rejection of claim 10.

In view of the foregoing, Applicant respectfully submits that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicant respectfully requests favorable consideration and that this application be passed to allowance.

Respectfully submitted,

Date

8/3/07



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